Fiscal Year 2005

Kansas Army Ammunition Plant

Installation Action Plan

ON THE LINE

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FY 2005

Kansas Army Ammunition Plant Installation Action Plan

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Statement of Purpose

The purpose of the Installation Action Plan (IAP) is to outline the total multi-year restoration program for an installation. The plan will define Installation Restoration Program (IRP) requirements and propose a comprehensive approach and associated costs to conduct future investigations and remedial actions at each Solid Waste Management Unit (SWMU) at the installation and other areas of concern.

In an effort to coordinate planning information between the IRP manager, major army commands (MACOMs), installations, executing agencies, regulatory agencies, and the public, an IAP has been completed for the Kansas Army Ammunition Plant (KSAAP). The IAP is used to track requirements, schedules and tentative budgets for all major Army installation restoration programs.

All site specific funding and schedule information has been prepared according to projected overall Army funding levels and is therefore subject to change during the document's annual review. Under current project funding, all remedies will be in place at the KSAAP by the end of 2006.

The following agencies contributed to the formulation and completion of this Installation Action Plan:

Day and Zimmermann, Inc.

Engineering and Environment, Inc.

Kansas Army Ammunition Plant

Kansas Department of Health and Environment

U.S. Army Environmental Center

U.S.Corps Of Engineers

U.S. Environmental Protection Agency, Region VII

Acronyms & Abbreviations

ALF	Abandoned Landfill
ADRA	Ammunition Demilitarization and Renovation Area
BRAC	Base Realignment and Closure Action
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CMS	Corrective Measures Study
CTC	Cost To Complete
Cu	Copper
DERA	Defense Environmental Restoration Account
DRMO	Defense Reutilization and Marketing Office
DSERTS	Defense Site Environmental Restoration Tracking System
DZI	Day & Zimmermann, Inc.
EE/CA	Engineering Evaluation Cost Analysis
ER,A	Environmental Restoration, Army (formally called DERA)
FFSRA	Federal Facility Site Remediation Agreement
FS	Feasibility Study
FY	Fiscal Year
GOCO	Government Owned, Contractor Operator
HHRA	Human Health risk Assessment
IOC	Installation Operation Command (replaced by OSC)
IRA	Interim Remedial Action
IRP	Installation Restoration Program
KDHE	Kansas Department of Health & Environment
K(S)AAP	Kansas Army Ammunition Plant
LTM	Long Term Monitoring
MCL	Maximum Contaminant Level
NE	Not Evaluated
NFA	No Further Action
NPDES	National Pollution Discharge Elimination System
OSC	Operation Support Command
PAH	Polycyclic Aromatic Hydrocarbons
PEP	Propellents, Explosives, Pyrotecnics
PCE	Trichloroethelene
POL	Petroleum, Oil & Lubricants
RA	Remedial Action
RA(C)	Remedial Action - Construction
RA(O)	Remedial Action - Operation
RAB	Restoration Advisory Board
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
REM	Removal
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
RI	Remedial Investigation
RIP	Remedy in Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
RSK	Risk Based Standards for Kansas
SI	Site Inspection

Acronyms & Abbreviations

STP	Sewage Treament Plant
SVOC	Semi-Volatile Organic Compounds
SWMU	Solid Waste Management Unit
TCE	Trichloroethylene
TCLP	Toxicity Characterization Leaching Procedure
TPH	Total Petroleum Hydrocarbons
TRC	Technical Review Committee
USACHPPM	United States Army Center for Health Promotion and Preventive Medicine
USAEC	United States Army Environmental Center
USAEHA	United States Army Environmental Hygiene Agency (replaced by CHPPM)
USATHMA	United States Army Toxic and Hazardous Material Agency (replaced by AEC)
UST	Underground Storage Tank
UXO	Unexploded Ordnance
VOC	Volatile Organic Compounds

Summary

STATUS

Non-NPL with RCRA Part B Permit Corrective Actions.
Consent Order issued March 1989 for KAAP-18.

NUMBER OF DSERTS SITES:

34 DSERTS sites
- 16 Active ER.A Eligible Sites
- 1 Response Complete with LTM
- 17 Response Complete ER,A Eligible

DIFFERENT DSERTS SITE TYPES:

2	Burn Area	2	Contaminated Buildings
7	Industrial Discharge	2	Incinerator
6	Landfills	1	Oil Water Separator
1	Pistol Range	3	Storage Areas
2	Surface Impoundment/Lagoons	2	Spill Site Areas
1	Sewage Treatment Plant	1	Above Ground Storage Tank
1	UnderGround Storage Tank	1	Explosive Ordnance Disposal
1	Other		

CONTAMINANTS OF CONCERN:

Explosives, Heavy Metals, VOCs, SVOCs, Dioxin/Furans, PAH, Arsenic, PCBs

MEDIA OF CONCERN:

Groundwater, Soil, Surface Water, Sediments

COMPLETED REM/IRA/RA:

- IRA, FY98 soil solidification (lead) soil removal (explosives) KAAP-18
- IRA, FY 98 pond sediments removal (lead) KAAP-18
- IRA, FY01, Metals contaminated soils KAAP 10,20,21,22,41
- IRA, FY02, Explosives Soils Kaap 10,20,21,22
- RA, FY03, Groundwater MNA, KAAP-18

CURRENT IRP PHASES:

RI/FS 9 Sites RA 3 Sites LTM 3 Sites

PROJECTED IRP PHASES:

RI/FS 3 sites RD 5 Sites RA 6 Sites
RA(O) 3 Sites LTM 8Sites

IDENTIFIED POSSIBLE REM/IRA/RA:

- RA at KAAP-001, 003, 004, 005, 009, 010, 016, 017, 018, 019, 020, 021, 022, 043

DURATION:

YEAR OF IRP INCEPTION: 1989
YEAR OF IRP COMPLETION EXCLUDING LTM: 2008
YEAR OF IRP COMPLETION INCLUDING LTM: 2031

Installation Information

SITE DESCRIPTION:

Kansas Army Ammunition Plant (KSAAP) is located on 13,727 acres in rural Labette County, Kansas. The site is approximately 3 miles east of the City of Parsons (population 12,000) and 1 mile north of the town of Labette, Kansas (population 250). Kansas AAP is approximately 30 miles west of the Missouri border and 20 miles north of the Oklahoma border. The Installation is surrounded by farmland that is used for cattle grazing and crop production.

IRP EXECUTING AGENCIES:

IRP Executor: U.S. Army Corps of Engineers, Kansas City District

REGULATORY PARTICIPATION:

Federal: U.S. Environmental Protection Agency, Region VII
State: Kansas Department of Health and Environment (KDHE)

REGULATORY STATUS:

· Non-NPL Installation Site with RCRA Corrective Action
· 700 Area Consent Order, March 1989, KDHE

MAJOR CHANGES TO IAP FROM PREVIOUS YEAR:

· Net CTC reduction over the last three years of ~10M

Installation Description

DESCRIPTION

CURRENT:

Kansas Army Ammunition Plant is a Government-Owned, Contractor-Operated (GOCO) Installation under the jurisdiction of the US Army Operations Support Command (OSC). The Installation is designated as inactive. The Operating Contractor has a Facility Use Contract for use in third party contracting of both DOD and Non-DOD munition items. The operating Contractor has a production contract with DOD for the Load/Assemble and Pack (LAP) of the Sensor Fuzed Weapon (SFW) on the 1100 line.

HISTORIC:

The plant was established in 1941-42 as part of the pre-World War II build-up. The Secretary of War authorized the project on 31 May 1940. Construction was initiated in August 1941 and was completed in November 1942. Original construction consisted of three load lines, four component areas, an ammonium nitrate area, five explosive storage areas, an inert storage area and a maintenance and administration area, along with utilities, roads, and railroads required to support these facilities. The construction contractors were Peter Kiewit Sons Co., George W. Condon Co., both of Omaha, Nebraska; and Paschen Contractor Inc., Chicago, Illinois. Original construction cost, including land, but excluding machinery, was $25,881,589.

Initial production began in July 1942 and was completed in August 1945. During this period artillery ammunition, bombs, and components for artillery shells, such as fuzes, boosters, detonators, relays, and primers were assembled. Ammonium nitrate was also produced. The operating contractor was J-M Service Corporation.

The plant was placed on standby in September 1945 through August 1950. During this period it was a Government-Owned/Government-Operated (GOGO) plant. Plant operations consisted of receipt, storage, and issue of ammunition, ammunition components, and explosives, maintenance of facilities, preservation of industrial reserve equipment, ammunition renovation, and demilitarization of selected items. Following shutdown of World War II production activities, all available land was outleased for agricultural purposes.

During August 1950, there was a partial reactivation of the plant, and by September 1954 all production lines had been reactivated and the ammonium nitrate area converted to a cartridge case rework area. National Gypsum Company was selected as the operating contractor in April 1951. Items produced consisted of bombs, artillery ammunition, and component parts, and reworked 105mm cartridge cases. Subsequent to the signing of the Korean truce, production schedules diminished gradually. Upon completion of production orders, the areas were decontaminated and placed on standby.

During the standby period (1957-1967), the plant continued on a contractor-operator basis. Activities consisted of maintenance of facilities, and receipt, storage, and issue of ammunition items. Idle facilities, not required for storage of military materials, were made available for outleasing. Econo-Motels (manufacturers of prefabricated motel units), Grandview Products (manufacturer of cabinets), Stocker Wood Products (manufacturer of cabinets, desks, and shelving), and Ruskin (manufacturer of sheet metal products) leased 95,000 sq. ft. of floor area. The Bureau of Census and the Department of Commerce occupied the administrative area and a portion of the inert storage area on a permit basis during 1951-1961.

Reactivation of the plant in support of the Southeast Asia Conflict commenced in early 1967. All production facilities were reactivated with the exception of the cartridge case rework area. The demolition bomb line (1100) was converted to a cluster bomb line and a 105mm shell line (900 area) was equipped for loading 81mm mortar rounds. Items produced consisted of cluster bombs, 105mm shells, 81mm mortars, detonators, fuzes, primers, and lead cup assemblies. Following the cessation of the Southeast Asia conflict five of the eight operating lines were laid away. Modernization, with limited production of the M374 Mortar on the 900 line, was completed in March 1976. Production of the 105mm, HE, M1 round on the 1000 line ceased in 1978.

DESCRIPTION (continued)

Plans for termination of National Gypsum Company's contract were announced on November 26, 1968. Day and Zimmermann, Inc. was named the new contractor on December 31,1969, and commenced operations on March 2, 1970.

A Lead Azide area, designed by E.I. duPont de Nemours and Company, Inc. and constructed by Martin K. Eby Construction Company under contracts with the Corp of Engineers, was completed in September 1968. The plant was tested and placed in layaway status during 1970.

The 300 line was modernized to load/assemble/pack (L/A/P) the 155mm/M483 ICM projectile. Production began in December 1976 and continued through April 1989. Production of the M864 began on this line in September 1992, and was completed in November 1993.

A number of sites were identified as having possible soil, surface water, and groundwater contamination as a result of past activities in the Load/Assemble/Pack of munition components. The U.S. Army Hygiene Agency (USAEHA) also performed a study at KSAAP with similar results.

In December 1989, the Environmental Protection Agency (EPA) Region VII issued a RCRA Part B Permit identifying 25 SWMU sites requiring investigation of surface water, groundwater, surface and subsurface soils. Phase I investigations began in February 1992. The Final Phase I Investigation Report was completed in August 1994. A Background Metals Study was completed in June 1994 at the request of EPA to compare Phase I investigation data.

An Interim Measures Fish/Pond Study was completed in May 1996. EPA requested this study to assess potential risk to people catching and eating fish at KSAAP. As a result of this study, one pond was voluntarily closed to fishing until information could be gathered in the Phase II investigations.

Phase II field investigations were completed in September 1996. Final investigation reports were completed in May 1998. The Ecological Survey and the Human Health Risk Assessment reports were finalized in FY99. Data Gap Study completed August 2002.

MISSION

1. Produce munitions for the Department of Defense.
2. Maintain replenishment production capability for assigned ammunition items.
3. Support third party and facility use contractors for the Load/Assemble/Pack and Demilitarization of ammunition.
4. Perform product quality assurance for DOD programs and for assigned direct foreign sales.
5. Maintain facility for future mobilization requirements.
6. Support the Arms Program for plant commercialization.
7. Manage plant environmental, natural resources, safety, security, and real/personal property programs.

Contamination Assessment

KSAAP's RCRA Part B permit issued in August 1989, identified twenty-five Solid Waste Management Units (SWMUs) requiring investigation for possible contamination. Areas of investigation include production areas, landfills, open burning cages, open burning pads, open detonation area, and miscellaneous maintenance and support areas. See map for locations (see Installation Description section).

Primary contamination of concern in the production areas and open burning areas are explosives and metals. Explosives in groundwater have been detected in some production areas. Contamination in the production areas was generally highest near the sumps and production facilities. Some dioxins/furans in soils were found at open burn pads. Some contamination was detected at all landfill areas. Two closed Landfill areas had VOCs, SVOCs and metals in surface soils and groundwater. Some dioxin/furans were found in surface soils and pond sediments at the 200 Area Closed landfill and Burn Pits (KAAP-03).

The Phase I RCRA Facility Investigation of contaminated sites began February 1992. Phase II field investigations were completed in 1996. Final Phase II reports were completed in May 1998. The Human Health Risk Assessment and Ecological Risk Assessment were approved in spring 1999. A Corrective Measures Study (CMS) was completed that identified some sites for no further action, and corrective actions for five sites. Removal action for the 900 Area, 1000 Area, 1100 Area, open burn areas for explosive contamination, and metals-contaminated soils has been completed. A groundwater monitoring program started for several sites in 1999.

The KDHE issued a Consent Order in March 1989, requiring investigation of the soils and groundwater in the 700 Area of KSAAP. A pre-remedial design investigation on the 700 Area was completed in August 1994. High concentrations of lead as well as other metals were found around the sumps. Lead has migrated from the sumps to the drainage ditches and to one oxidation pond. High concentrations of explosives were found at Building 701in the 700 Area. Groundwater monitoring results from the 700 Area indicates the presence of TCE/PCE levels above the MCLs, triggering a requirement for an assessment of the groundwater.

Groundwater Assessment field investigations for TCE/PCE contamination were completed in July 1998, and the final report was approved in July 1999.

Two Interim Remedial Actions were completed in 1998. Removal of lead and explosive-contaminated soils in the 700 Area was completed in June 1998. Removal of lead in Pond 15 sediments was completed in August 1998. Monitored Natural Attenuation System for groundwater was put in place in 2003.

REGULATORY STATUS:

700 AREA CONSENT ORDER - Sampling conducted by the EPA in August 1987 revealed high concentrations of lead being released in the 700 Area. In October 1987, the Kansas Department of Health and Environment (KDHE) requested KSAAP to perform a follow-up sampling of the 700 Area. These findings also revealed high concentrations of lead being released constituting an unlawful disposal of hazardous waste. In March 1989, a consent order was issued requiring KSAAP to perform soil and groundwater investigations and remediation of the 700 Area.

In April 1989 USAEHA began soil and groundwater investigations to determine the extent of contamination. Upon review of the USAEHA Report, KDHE determined additional monitoring wells and investigation of ponds and ditches were needed. The Kansas City District Corps of Engineers (COE) was given the responsibility for completing the investigation. The Pre-Remedial Design Investigation Report for the 700 Area was completed in August 1994. The Human Health Risk Assessment for the 700 Area was completed in May 1996. The final Soil and Sediment Engineering Report for remedial alternatives was completed in May

1997. The Interim Removal project for removal and treatment of lead and explosive contaminated soils in the 700 Area was completed in July 1998. Also, the Interim Removal Project to remove lead contaminated sediments in Pond 15 was completed in August 1998.

Groundwater monitoring for the 700 Area began in June 1992. Volatile organic compounds and explosives have been detected in the groundwater above MCLs. An assessment of the groundwater was completed in FY 98; a final report has been submitted to the Kansas Department of Health and Environment that identifies the extent of PCE/TCE contamination in the groundwater. The *Final 700 Area Groundwater Engineering Report* was submitted in June 2001. Monitored natural attenuation of the 700 Area groundwater has been chosen as the prefered remedial action alternative.

USCHPPM sampled 6 sites for relative risk. They reccommended additional investigation at two sites, one of which resulted in the creation of KAAP-043. The other suggested further evaluation at KAAP-015.

A Corrective Measures Study was completed February 2001. It covered five sites, KAAP-10, 20, 21, 22, 41, which have explosives and/or metals contaminated soil. Remediation will be excavation/thermal treatment of explosives contaminated soil and solidification/removal of metals contaminated soil.

The Final Data Gap Study was completed in August 2002. It investigated KAAP-1, 2, 3, 4, 5, 9, 10, 16, 17, 19, 20, 21, 22, 28, 37 soil and water for various contaminants.

Additional investigation of the groundwater at KAAP-22 was completed in 2003. KAAP-17, and KAAP-19 groundwater investigations began in 2004.

Installation-wide Corrective Measures Study for groundwater and landfill covers began in FY2003.

Remedial Investigations at KAAP-43 began in FY 2004.

Contamination Assessment

PREVIOUS STUDIES

Title	Author	Date
Background Metals Study, Kansas AAP	Radian	June-94
Pre-Remedial Design Investigation for the 700 Area	Radian	August-94
Phase I RCRA Facility Investigation, Kansas AAP	Radian	August-94
Final Interim Measures Assessment Study	Law	May-96
Human Risk Assessment for the 700 Area	Radian	May-96
Soil and Sediment Engineering Report for Remedial Action Alternatives for the 700 Area	Radian	May-97
Phase II RCRA Facility Investigation, Kansas AAP	Radian	May-98
Phase II Facility Investigation	Law	June-98
Human Risk Baseline Risk Assessment	Law	March-99
Installation Wide Ecological Assessment	Radian	April-99
700 Area Groundwater Assessment	Radian	July-99
Hazardous & Medical Waste Study, Relative Risk Site Evaluation	USCHPPM	November-00
Corrective Measures Study for KAAP	USACE, Kansas City District	February-01
700 Area Groundwater Engineering Report, Final	URS Corp, Radian	June-01
Data Gap Study	Plexus Scientific Corp.	August-02
1100 Area Groundwater Investigation Report	USACE, Kansas City District	April-04

FY 2005

Kansas Army Ammunition Plant

ER,A Active AEDB-R Sites

KAAP - 001, SWMU-12
CLASSIFICATION CONSTRUCTION WASTE

SITE DESCRIPTION

KAAP-01 is an approximately 4-acre uncapped construction debris landfill site and is located 0.25 miles southeast of Gate 3 on the northern boundary of the plant. This site was used to dispose of construction waste generated during construction of KSAAP in 1942. Further investigation has determined that this was not a landfill, but rather a surface disposal area.

The PA/SI was completed in 1989. The Phase I RI was completed Aug 1994, the Phase II in June 1998. The Phase II RI report concluded that the source of elevated metals detected in the subsurface soils and downgradient sediments is unknown. The potential migration pathways of metals from the landfill to these media (e.g., via the surface water) was identified as a *data gap.*

A data gap study for metals contamination (arsenic) was completed in May 2002. Some metals were found below regulatory limits. CMS is underway in FY04.

STATUS

RRSE RATING: High

CONTAMINANTS:

Arsenic

MEDIA OF CONCERN:

Sediments

COMPLETED IRP PHASE:

PA/SI, RI

CURRENT IRP PHASE:

FS

FUTURE IRP PHASE:

IRA, RC

PROPOSED PLAN

Removal of a pile of metal is planned.

KAAP - 002, SWMU - 13
CLOSED LANDFILL CONSTRUCTION WASTE

SITE DESCRIPTION

KAAP-02 is a closed landfill located in the south-central part of the Installation. This site was used between 1941 and 1945 and is located immediately north of Road 5.5 between Quarry Pond # 6 and #7. The site is circular in shape with a diameter of 150 feet, and covers approximately 0.4 acres.

Various amounts of construction/demolition debris including scrap metal parts, rubble, trash, and inert material was placed on the ground to a six-foot height and covered with four feet of earth.

The PA/SI was completed in 1989. The Phase I RI was completed in August of 1994, the Phase II in June 1998. The RI detected levels of VOCs that exceed MCL in groundwater.

Groundwater monitoring began in March 1999.

Data Gap Study (May 02) results found no metals above regulatory limits in the quarry ponds. CMS is underway.

STATUS

RRSE RATING: Medium

CONTAMINANTS:

Metals, VOCs

MEDIA OF CONCERN:

Soil, Groundwater

COMPLETED IRP PHASE:

PA/SI

CURRENT IRP PHASE:

RI/FS

FUTURE IRP PHASE:

RD, RA, LTM

PROPOSED PLAN

Remove landfill ~ .4 acres to on-site landfill KAAP-005. Complete the CMS and evaluate the groundwater monitoring requirements.

KAAP - 003, SWMU - 14
CLOSED LANDFILL W/ REFUSE PITS

SITE DESCRIPTION

KAAP-03 is immediately north of Road 2 and west of the 200 Area. This site consists of two inactive landfill cells and a former refuse burning pit covering an area of approximately 12 acres. The landfill was used from 1950 to 1969. Materials disposed of consist of construction/demolition waste, maintenance/operations waste, and general office material. UXO may be present.

The PA/SI was completed in March 1989. The Phase I RI was completed in August 1994, the Phase II in June 1998. Trace amounts of dioxins and furans were detected in subsurface soils, Pond 36 sediment, surface water and fish tissue. VOCs and metals were detected above MCLs in groundwater.

Groundwater monitoring began in March 1999.

A data gap study for VOC, SVOCs, explosives, dioxins, furans, metals contamination was completed in May 2002. Some VOCs were found above regulatory limits. CMS is underway.

A landfill cover investigation was conducted in FY04, results pending.

STATUS

RRSE RATING: Medium
CONTAMINANTS:
Dioxins/Furans, Heavy Metals, VOCs
MEDIA OF CONCERN:
Soil, Groundwater, Sediment
COMPLETED IRP PHASE:
PA/SI
CURRENT IRP PHASE:
RI/FS
FUTURE IRP PHASE: RD, RA, LTM

PROPOSED PLAN

An engineered soil cover over ~12 acres is planned.

Monitored natural attenuation is expected for groundwater. LTM follows.

KAAP - 004, SWMU - 16
CLOSED LANDFILL

SITE DESCRIPTION

KAAP-04 is located in the east central portion of the Installation, immediately south of Road 3, near the open detonation area. The landfill is approximately 12 acres and was operated between 1969 and 1981. Waste disposed of includes ashes from burning operations and non-salable scrap metal.

The PA/SI was completed in March 1989. The Phase I RI was completed in August of 1994, the Phase II RI in June 1998. Low levels of nitrobenzene and other volatiles were found in the groundwater.

A data gap study for VOC, SVOCs, explosives, metals contamination was completed in May 2002. Some VOCs were found above regulatory limits. CMS is underway.

A landfill cover investigation was conducted in FY04.

STATUS

RRSE RATING: Medium

CONTAMINANTS:

Heavy Metals, VOCs. SVOCs

MEDIA OF CONCERN:

Soil, Groundwater

COMPLETED IRP PHASE:
PA/SI

CURRENT IRP PHASE:
RI/FS

FUTURE IRP PHASE: RD, RA, LTM

PROPOSED PLAN

An engineered soil cover over ~12 acres is planned.

An RA for groundwater may be required following the CMS. LTM will follow.

KAAP - 005, SWMU - 15
INACTIVE LANDFILL ADMN AND CONSTRUCTION

SITE DESCRIPTION

KAAP-005 is located in the northwest portion of the Installation, immediately south of Road 2 and west of the 200 Area. The site occupies approximately 12 acres. Waste disposed of includes inert grenade bodies, asbestos, fly ash from the contaminated waste processor, maintenance operation waste, sludge from the anaerobic digester, and trash.

This site is adjacent to the permitted current landfill. This site qualifies for IRP funds because the portion of the landfill that was investigated is a closed asbestos pit, grenade body burial pit and fly ash pit.

The PA/SI was completed in March 1989. The RFI Phase I was completed in August of 1994, the Phase II RFI in June 1998, GW monitoring started in March 1999.

Dioxins/furans were detected in soil samples. Lead, volatiles and explosives below MCLs were detected in GW.

STATUS

RRSE RATING: Medium
CONTAMINANTS:
VOCs, SVOCs, Metals
MEDIA OF CONCERN:
Soil, Groundwater
COMPLETED IRP PHASE:
PA/SI
CURRENT IRP PHASE:
RI/FS
FUTURE IRP PHASE:
RD, RA, RA(O), LTM

A data gap study for VOC, SVOCs, explosives, metals contamination was completed in May 2002. No organics or metals were found above regulatory limits. CMS is underway. Groundwater is being addressed under KAAP-003.

PROPOSED PLAN

An engineered soil cover over ~11 acres is planned.

LTM follows.

KAAP - 009, SWMU - 23
BURNING CAGES

SITE DESCRIPTION

KAAP-009 is located in the east central portion of the installation. These cages (#14, 17, 22) were used to burn explosive contaminated trash from the production lines prior to construction of the contaminated waste processor. These burn cages were used from approximately 1952 to 1985. Each cage is surrounded on three sides by an 8 ft. berm.

The PA/SI was completed in 1989. The RFI Phase I was completed in Aug 1994, the RFI Phase II in June 1998. Explosives, PCBs, lead, dioxins and furans were detected in the soil. Lead and antimony at MCLs were detected in the groundwater.

A data gap study of the soil tested for explosives, dioxins, furans, metals contamination was completed in May 2002. Lead and explosives exceeded clean up standards.

STATUS

RRSE RATING: High

CONTAMINANTS:

Metals, Explosives, Dioxins

MEDIA OF CONCERN:

Soil, Groundwater

COMPLETED IRP PHASE:

PA/SI, RI

CURRENT IRP PHASE:

RA

FUTURE IRP PHASE:

LTM

PROPOSED PLAN

Complete contaminated soil removal.
Monitor groundwater for ~5 years after removal.

KAAP - 010, SWMU - 24, 11
OPEN BURNING PADS

SITE DESCRIPTION

KAAP-010 is located in the east central portion of the installation. Pads 1-6 were in use from 1967 to 1984 to burn PEP waste on the ground. Use of pads 1-4 (SWMU-11) stopped in 1984. Pans were installed in 1984 at Pad 5 (SWMU-24) to use for open burning of explosive hazardous waste, while Pad 6 (SWMU-24) is infrequently used for burning/flashing explosive contaminated material too large for the contaminated waste processor.

RFA was completed in March 1989. The RFI Phase I was completed August 1994, the RFI Phase II in June 1998.

Soil sampling detected RDX, TNT, and lead above RSK. Dioxins/furans, PCBs, SVOCs, and explosives were detected below screening criteria.

No significant contamination was found in groundwater.

The metals and explosives contaminated soil removal (SWMU 11) was completed Spring 2003.

STATUS

RRSE RATING: High

CONTAMINANTS:

Explosives, Lead

MEDIA OF CONCERN:

Soil, Groundwater

COMPLETED IRP PHASE:

RFA, RFI, RD

CURRENT IRP PHASE: RA

FUTURE IRP PHASE: LTM

PROPOSED PLAN

Groundwater monitoring is ongoing.

KAAP-016, SWMU-5
300 AREA WASHWATER SUMPS AND DISCHARGE POINTS

SITE DESCRIPTION

KAAP-16 consists of wastewater sumps, ditches and oxidation ponds. The site is located in the north central portion of the installation, north of Road 1.5. This site has been in use from 1941 to present. The IRP portion covers the overflow.

Prior to construction of a wastewater treatment system, wastewater was discharged into unlined ditches and ponds. The trough and sump systems are constructed of concrete and have no secondary containment. Spillage/overflows have occurred around the sumps. Currently, the sumps are pumped regularly to prevent overflow.

The RFA was completed in March 1989. The RFI Phase I was completed in August of 1994, the Phase II RFI in June 1998.

STATUS

RRSE RATING: Medium
CONTAMINANTS:
Explosives, Metals
MEDIA OF CONCERN:
Soil, Groundwater, Surface Water
COMPLETED IRP PHASE:
RFA, RI/FS, RD
CURRENT IRP PHASE:
RI
FUTURE IRP PHASE:
LTM

Explosives were detected in the soil and groundwater at low levels. The data gap study (May 2002) tested for explosives and metals in soil and groundwater. RDX was found in the soil above regulatory limits. Hot spots were removed in Spring 2003. Groundwater CMS is underway.

PROPOSED PLAN

Groundwater monitoring is expected.

KAAP - 017, SWMU - 6
500 AREA WASHWATER SUMPS AND DISCHARGE POINTS

SITE DESCRIPTION

KAAP-017 is located in the north central portion of the installation, north of Road 1.5 and west of the 300 Area. It was in use from 1942 to 1974.

The sumps were opened-topped, constructed of concrete, and designed to overflow to unlined ditches. Solids that collected into the sumps were removed and burned at the open burning grounds.

RFI Phase I was completed in August 1994, the Phase II RFI in June 1998.

Explosives, metals, and PAHs were found in the soil at high levels. Metals and explosives were found in groundwater.

The data gap study (May 2002) tested for explosives and metals in soil and groundwater. No additional exceedances were found. Soil removal was completed Spring 2003. Groundwater CMS is underway.

STATUS

RRSE RATING: Medium
CONTAMINANTS:
Explosives, Metals, PAHs
MEDIA OF CONCERN:
Soil, Groundwater, Surface Water
COMPLETED IRP PHASE:
PA/SI, RI/FS

CURRENT IRP PHASE:
RI/FS
FUTURE IRP PHASE:
LTM

PROPOSED PLAN

Groundwater monitoring is planned.

KAAP - 018,SWMU - 25
700 AREA WASHWATER SUMPS AND DISCHARGE POINTS

SITE DESCRIPTION

KAAP-018 has been in use from the 1940s to present and is located in the north central portion of the installation, south of the 500 Area. Prior to construction of the industrial wastewater treatment system in the 700 Area, wastewater was discharged into in-ground sumps. Past processes resulted in lead being discharged to surrounding soils. Wastewaters were then treated with acetic acid, sodium nitrate and sodium hydroxide and allowed to overflow into unlined ditches and ponds. A Consent Agreement was issued in March 1989 to cleanup lead-contaminated soils and VOC/SVOC-contaminated groundwater.

A soil IRA was completed in July 1998. It included the removal and disposal of explosive contaminated soils to an off-site hazardous waste facility. The lead-contaminated soil and sediments were treated to non-hazardous levels and disposed of in a permitted (RCRA Subtitle D) landfill.

Soil cleanup was approved by regulators in March 1999 and no further action is needed.

A Groundwater Assessment Report was completed in July 1999. The report identified several contaminants above MCLs. A GW Engineering report (EE/CA) was completed to evaluate clean-up options. Additional wells were installed in FY03 and the MNA system was installed and is operational.

STATUS

RRSE RATING: High
CONTAMINANTS: Explosives, Metals, VOCs
MEDIA OF CONCERN: Soil, Groundwater, Surface Water
COMPLETED IRP PHASE: PA/SI, RI (soils), IRA (soils & pond sediments), RI (GW), RI/FS, RD
CURRENT IRP PHASE: RA, RI/FS
FUTURE IRP PHASE: RA(O), LTM

PROPOSED PLAN

Continued operation of monitored attenuation remedy.

KAAP - 019, SWMU - 7
800 AREA WASHWATER SUMPS AND DISCHARGE POINTS

SITE DESCRIPTION

KAAP-19 was in use from 1942 to1974 and is located in the north central portion of the installation, west of Road 1.5 and the 1700 Area. Opened in-ground sumps and troughs covered with metal gratings were used to convey explosive wastewater. Solids were allowed to settle out in the bottom of sumps and wastewater containing explosives discharged into the ditches around the sumps.

The PA/SI was completed in 1989. The RFI Phase I was completed in August 1994, the RFI Phase II in June 1998.

There are low levels of explosives in the surface soil. Lead was detected in the sump sediment.

The data gap study reports VOCs detected in GW above regulatory limits. Soil removal was completed in Spring 2003. Groundwater CMS is underway.

STATUS

RRSE RATING: Medium

CONTAMINANTS:

Explosives, Metals, VOCs

MEDIA OF CONCERN:

Soil, Groundwater

COMPLETED IRP PHASE:

PA/SI

CURRENT IRP PHASE:

RI/FS

FUTURE IRP PHASE:

RA, RD, RA(O), LTM

PROPOSED PLAN

Monitored natural attenuation is expected.

KAAP - 020, SWMU - 8
900 AREA WASHWATER SUMPS AND DISCHARGE POINTS

SITE DESCRIPTION

KAAP-20 is located in the central portion of the installation, north of Road 2.5. Prior to construction of the 900 Area industrial wastewater treatment system, wastewater was discharged directly to the 900 Area unlined ditches and oxidation ponds. The site was in use from 1942 to 1975.

RFA was completed in 1989. The RFI Phase I was completed in August 1994, the RFI Phase II in June 1998. Explosives and lead were found in soil, sediments, and groundwater.

Soil removal completed Spring 2003. Groundwater CMS is underway.

STATUS

RRSE RATING: High
CONTAMINANTS:
Explosives, Metals
MEDIA OF CONCERN:
Soil, Groundwater, Surface Water
COMPLETED IRP PHASE:
RFA, RFI, RI/FS (soils), RD (soils), RA (soils)

CURRENT IRP PHASE:
RI/FS (GW)
FUTURE IRP PHASE:
RD, (GW), RA (GW), LTM

PROPOSED PLAN

Groundwater monitoring is planned.

KAAP - 21, SWMU - 9
1000 AREA WASHWATER SUMPS AND DISCHARGE POINTS

SITE DESCRIPTION

KAAP-21 is located in the central portion of the installation, south of the 900 Area. Prior to construction of the industrial wastewater treatment system in the 1000 Area, wastewater was discharged into the unlined ditches and oxidation ponds. In-ground sumps and troughs were constructed of concrete and are open-topped. This site was in use from 1942 to 1974.

The RFA was completed in 1989. The RFI Phase I was completed in August 1994, the RFI Phase II in June 1998. Metals and explosives were detected in the soil. Metals and explosives in excess of action levels were detected in ground-water near the sumps.

Soil removal was completed Spring 2003.

The RFI found explosives in the GW above regulatory limits. The data gap study did not find any additional explosives in GW (though, sampled in different locations.) Groundwater CMS is underway.

STATUS

RRSE RATING: High
CONTAMINANTS:
Explosives, Metals
MEDIA OF CONCERN:
Soil, Groundwater
COMPLETED IRP PHASE:
RFA, RFI , RA (SOIL), RD (SOIL)
CURRENT IRP PHASE:
RI/FS (GW)
FUTURE IRP PHASE:
RD (GW), RA(GW), LTM

PROPOSED PLAN

Monitored nautral attenuation is expected.

KAAP - 022, SWMU - 10
1100 AREA WASHWATER SUMPS AND DISCHARGE POINTS

SITE DESCRIPTION

KAAP-22 is located in the south central portion of the installation, north of Road 4. It has been used from 1942 to present. Prior to construction of a wastewater treatment system, wastewater was discharged to unlined ditches and oxidation ponds. Spills and overflows have occurred around the in-ground sumps. Currently, the sumps are pumped regularly to prevent overflow.

The PA/SI was completed in 1989. The RFI Phase I was completed in August 1994, the RFI Phase II in June 1998. Metals and explosives were detected in the soil. Explosives in excess of action levels were detected in groundwater near the sumps.

A RD for remediation of contaminated soils was started in March 1999. The soil RA is removal of approximately ~1,200cy of metals-contaminated soil and 1,000 cy of explosive contaminated soil was completed in FY03.

The Groundwater Delineation study has been completed. Groundwater CMS is underway.

STATUS

RRSE RATING: High
CONTAMINANTS:
Explosives, Metals
MEDIA OF CONCERN:
Soil, Groundwater
COMPLETED IRP PHASE:
RFA, RFI, RD (soil),RA (SOIL)
CURRENT IRP PHASE:
RI/FS (GW)
FUTURE IRP PHASE:
RD (GW), RA, RA(O)

PROPOSED PLAN

A Groundwater CMS will be completed. MNA is the anticipated remedy for groundwater contamination.

KAAP - 037, SWMU - 17
DEMOLITION GROUNDS

SITE DESCRIPTION

KAAP-037 is located in the east central portion of the installation, south of Road 3, in the 2700 Area . The Demolition Grounds have been used since 1942 through the present for detonation of rejected and loaded explosive items. The demolition area is approximately 20 acres in size.

RFA was completed in 1989. The RFI Phase I was completed in August 1994 and found VOCs and lead in the GW above regulatory limits. The RFI Phase II in June 1998 did not analyze for VOCs. The site was analyzed for metals (different locations) and found none above regulatory limits.

Groundwater monitoring began in March 1999.

The Data Gap Study (May 2002) investigated GW for VOCs and explosives. Nothing was found above regulatory limits, though the same locations as the RFI were not sampled.

STATUS

RRSE RATING: Medium
CONTAMINANTS:
Explosives, Metals
MEDIA OF CONCERN:
Soil, Groundwater
COMPLETED IRP PHASE:
PA
CURRENT IRP PHASE:
LTM
FUTURE IRP PHASE:
LTM

PROPOSED PLAN

Groundwater monitoring should continue under an installation wide GW monitoring program.

When the area is closed, soil cleanup may be needed (non-ER,A funds).

KAAP - 043
1200 AREA AMMONIUM NITRATE 105MM REWORK

SITE DESCRIPTION

KAAP-43 encompasses the entire 1200 area. This was an ammonium nitrate production facility from 1942 - 1951. From 1946 to 1951, the facility was leased to the Spencer Chemical Company, who produced fertilizer-grade ammonium nitrate. In 1953, the production line operations were altered to rework 105 mm cartridge cases and remained as such until 1957. In 1996, thisline was used to assemble the payload module for the Tomahawk Missile.

USACHPPM sampled around 4 building groups FY 2000. PCBs and lead were found above regulatory levels in soil.

The RRSE was assigned in 2000. The PA/SI was completed in FY04.

STATUS

RRSE RATING: High
CONTAMINANTS:
PCB, Metals
MEDIA OF CONCERN:
Sediment, Surface Water, Soil, Groundwater
COMPLETED IRP PHASE:
PA/SI
CURRENT IRP PHASE:
RI/FS
FUTURE IRP PHASE:
FS, RD/RA

PROPOSED PLAN

The RI/FS is underway. IRA for contaminated soils is anticipated.

FY 2005

Kansas Army Ammunition Plant

Response Complete AEDB-R sites

KAAP - 011
OLD PESTICIDE STORAGE BUILDING

SITE DESCRIPTION

KAAP-11 is located in the southwest portion of the installation near the sewage treatment plant. The building was used for storage of pesticides. The area outside of the building may have been used for mixing of materials. The building is no longer at the site.

A visual inspection and records search showed no indication of release.

STATUS

RRSE RATING: NE

CONTAMINANTS:
Pesticides

MEDIA OF CONCERN:
Soil, Groundwater

COMPLETED IRP PHASE:
RFI

CURRENT IRP PHASE:
RC - 1989

KAAP - 012, SWMU - 21
HAZARDOUS WASTE STORAGE IGLOOS

SITE DESCRIPTION

KAAP-12 consists of container storage units located in the 1700, 1800, 1900 and the 2700 Areas of the installation. Hazardous waste generated at various locations of the installation is stored at these RCRA-permitted storage areas. The permitted storage facilities consist of 18 igloo structures and 1 storage magazine. No contamination was observed during Phase I investigations.

These storage units are still being used. These units began as RCRA units in 1980. The RFI Phase I was completed August 1994.

STATUS

RRSE RATING: NE

CONTAMINANTS:
PCBs

MEDIA OF CONCERN:
Soil, Groundwater, Surface Water

COMPLETED IRP PHASE:
RFA, RFI

CURRENT IRP PHASE:
RC - 1997

KAAP - 013
PCB STORAGE AREA 1400

SITE DESCRIPTION

KAAP-13 is located in the south central portion of the installation, immediately west of Road D, in Building 1406. Use of this site began in approximately 1980 and it is still in use. Used transformers are placed in storage pending outshipment for treatment and/or disposal. Transformers are placed in a drip pan to avoid release of PCB's into the environment. This site was not made part of the RCRA Part B permit Corrective Actions.

RFA was completed in 1989. This site is not ER,A eligible. Closure when activities end.

STATUS

RRSE RATING: NE

CONTAMINANTS:

PCBs

MEDIA OF CONCERN:

Soil, Groundwater, Surface Water

COMPLETED IRP PHASE:

RFA

CURRENT IRP PHASE:

RC - 1989

KAAP - 015
STP SLUDGE DRYING BEDS AREA 2200

SITE DESCRIPTION

The sewage treatment plant began operation in the 1940's and is located in the southwest portion of the installation and has a capacity of one million gallons per day. Sludge drying beds were the focus of the original investigation.

After treatment, the wastewater effluent is discharged into a ditch that leads to Labette Creek. Sludge and solids from the primary settling tanks are transferred to the anaerobic sludge digester and four sludge drying beds.

PA/SI was completed in March 1989. The RFI Phase I was completed in August 1994, the RFI Phase II in June 1998.

Samples taken showed no significant contamination.

STATUS

RRSE RATING: High

CONTAMINANTS:

Explosives, Metals, VOCs, SVOC

MEDIA OF CONCERN:

Groundwater, Soil, Surface Water

COMPLETED IRP PHASE:

PA/SI, RI

CURRENT IRP PHASE: RC

KAAP - 023
WASTE ANALYSIS CHEMISTRY LAB

SITE DESCRIPTION

KAAP-23 is located in the north central portion of the installation, south of Road 1.5 and the 300 Area. The site began in the 1940's and it is still being used. The laboratory performs chemical analyses on explosives, water, wastewater, and other waste generated at KSAAP. Quantities handled are small and strict procedures are followed.

This site was not selected for further investigation in the RCRA Part B permit Corrective Action.

RFA was completed in 1989.

STATUS

RRSE RATING: NE

CONTAMINANTS:

Explosives, Laboratory Chemicalsi

MEDIA OF CONCERN:

Soil, Groundwater, Surface Water

COMPLETED IRP PHASE:

RFA

CURRENT IRP PHASE:

RC - 1989

KAAP - 24, SWMU - 20
INCINERATOR EXPLOSIVE WASTE

SITE DESCRIPTION

KAAP-24 is located in the east central portion of the installation, 0.5 miles south of Road 3, south of the contaminated waste processor. It has been in use from 1981 to the present. The explosive waste incinerator is a RCRA permitted unit and is used for incinerating residual raw explosives and explosive loaded components. Emissions from the unit are treated in the EWI gas cooler, cyclone separator and baghouse before discharge.

The RFA was completed in 1989. The Phase I RFI was completed in Aug 1996.

Further action will be pursuant to the RCRA Part B permit.

STATUS

RRSE RATING: NE

CONTAMINANTS:

Emissions from No.2 Fuel Oil

MEDIA OF CONCERN:

Air

COMPLETED IRP PHASE:

RFA, RFI

CURRENT IRP PHASE:

RC (under IRP) - 1997

KAAP - 025, SWMU - 3
OIL SPILL RESIDUE LAND FARM

SITE DESCRIPTION

KAAP-25 is located within the 200 Area, approximately 700 feet west of Road D and immediately north of Road 2. The Landfarm was initially put into operation in 1984. The Landfarm consists of three cells, the largest is 150 feet by 150 feet. The other two cells are approximately 60 feet by 30 feet each. The cells had 12 inch berms and were lined with compacted clay. The Landfarm was used for treatment of oil contaminated soil from spill cleanup activities. Two of the cells have not been operated since 1985, use of the remaining cell ceased in 1994

RFA was completed in 1989. The RFI Phase I was completed in August 1994, the RFI Phase II in June 1998.

No further action for soil or groundwater is required.

STATUS

RRSE RATING: Medium

CONTAMINANTS:

Metals, Organics, SVOCs, VOCs

MEDIA OF CONCERN:

Soil, Groundwater

COMPLETED IRP PHASE:

RFA, RFI

CURRENT IRP PHASE:

RC

PROPOSED PLAN

Response complete pending review of data gaps and HHRA.

KAAP - 026, SWMU - 2
WASHRACK DISCHARGE POINT- AREA 200

SITE DESCRIPTION

KAAP-26 is located in the northwestern portion of the installation, in the 200 Area. It has been in use since the 1940's to the present. The oil/water separator is used to collect oil that may be discharged from building 202 wash rack activities. In principle the oil collects on the surface of the water behind the dike while clean water discharges to the ditch through four underdrains.

The PA/SI was completed 1989. The RFI Phase I was completed in August 1994, the RFI Phase II in June 1998. No significant contamination was found.

STATUS

RRSE RATING: Low

CONTAMINANTS:

Metals, VOCs, SVOCs

MEDIA OF CONCERN:

Soil, Groundwater, Surface Water

COMPLETED IRP PHASE:

RFA, RFI

CURRENT IRP PHASE:

RC

PROPOSED PLAN

Response complete pending review of data gaps and HHRA.

KAAP - 27
MERCURY FULMINATE BURIAL SITE

SITE DESCRIPTION

KAAP-27 is located southwest of closed landfill KAAP-04, approximately 0.5 miles east of Road E and immediately south of Road 3. Less than one quart of mercury fulminate from percussion primers was reportedly buried at this location. The U.S. Army arranged the removal of mercury and placed it in the KAAP-04 landfill in the late 1940's.

This site was not made part of the RCRA Part B permit Corrective Actions.

RFA was completed in 1989.

STATUS

RRSE RATING: NE

CONTAMINANTS:

Mercury Fulminate

MEDIA OF CONCERN:

Groundwater, Soil, Surface Water

COMPLETED IRP PHASE:

RFA

CURRENT IRP PHASE:

RC- 1989

KAAP - 028, SWMU - 19
COAL PILE RUNOFF

SITE DESCRIPTION

KAAP-28 is located in the northwestern portion of the installation, in the 200 Area. The coal pile storage area was build in the 1940's. Precipitation runoff from the coal pile went directly to the ditches.

RFA was completed in 1989. The RFI Phase I was completed in August 1994, the RFI Phase II in June 1998. The RFI found TPH and PAHs in the sediment. The Data Gap Study (May 2002) found arsenic above residential limits, but below industrial limits. GW was not tested.

PROPOSED PLAN

Response complete pending review of data gaps and HHRA.

STATUS

RRSE RATING: Medium

CONTAMINANTS:

Metals, PAHs

MEDIA OF CONCERN:

Soil, Groundwater, Surface Water

COMPLETED IRP PHASE:

RFA

CURRENT IRP PHASE:

RC

KAAP - 029, PARTICULATE EMISSION CONTROL FOR COAL FIRED BOILER

SITE DESCRIPTION

KAAP-29 is located in the northwestern portion of the installation, in the 200 Area. This process began in the 1940's. KAAP-29 consists of two gravity type flyash control systems (hoppers). The hoppers collect particulate emissions from the coal fired boilers. The flyash is non-hazardous and is disposed of in trenches in the current landfill.

This site was not selected for further investigation in the RCRA Part B permit Corrective Actions.

STATUS

RRSE RATING: NE

CONTAMINANTS:
Flyash, Sulfur by-products

MEDIA OF CONCERN:
Air

COMPLETED IRP PHASE:
RFA

CURRENT IRP PHASE:
RC- 1989

KAAP - 035, SWMU - 1 100 AREA LAUNDRY SUMP AND POND

SITE DESCRIPTION

KAAP-35 is located in the northwestern portion of the installation, in the Administrative area. This site was used from the 1940's to approximately 1990. The laundry was used for washing uniforms and rags used on production lines which were contaminated with explosives. Wastewater was conveyed to a settling sump. Wastewater from the sump was discharged through an under ground pipe to the oxidation pond.

RFA was completed in 1989. The RFI Phase I was completed in August 1994, the RFI Phase II in June 1998.

STATUS

RRSE RATING: low

CONTAMINANTS:
Explosives, Metals

MEDIA OF CONCERN:
Soil, Groundwater

COMPLETED IRP PHASE:
RFA, RFI (soil)

CURRENT IRP PHASE:
RC

PROPOSED PLAN

Response complete pending review of data gaps and HHRA.

KAAP - 036
200 AREA PAINT BOOTH WATERFALL SYSTEM

SITE DESCRIPTION

KAAP-36 is located Bluilding 247, in the 200 Area. It began use in the 1940's. The waterfall system controls the paint overspray associated with spray painting operations. The waste sludge generated from this operation contains lead and chromium and handled as hazardous waste. The system is intact and operational.

This site was not made part of the RCRA Part B permit Corrective Actions.

RFA completed in 1989.

STATUS

RRSE RATING: Medium

CONTAMINANTS:

Paint Waste, Solvents

MEDIA OF CONCERN:
Soil, Air, Water

COMPLETED IRP PHASE:
RFA

CURRENT IRP PHASE:

RC (UNDER IRP)-1989

KAAP - 038, SWMU - 22
CONTAMINATED WASTE PROCESSOR

SITE DESCRIPTION

KAAP-38 is located in the east central portion of the installation, in the 2700 Area. This site has been in use from 1981 to present. The CWP is used to burn trash, which may have been contaminated with explosives. Ash generated from this unit is drummed and stored in a hazardous waste unit until tested. Emissions are controlled by a gas cooler, cyclone separator and baghouse prior to discharge. Non - hazardous waste would be placed in the current landfill, hazardous waste would be taken off post.

RFA was completed in 1989. The RFI was completed in August 1994. No siginicant contamination was found.

STATUS

RRSE RATING: Low (3B)

CONTAMINANTS:

TNT, RDX

MEDIA OF CONCERN:
Soil, Groundwater

COMPLETED IRP PHASE:
PA, RI/FS

CURRENT IRP PHASE: RC-1997

KAAP - 039, SWMU - 4
HAZARDOUS WASTE UST

SITE DESCRIPTION

KAAP-39 is located in the north central portion of the installation, in the 300 Area. The tank contained a mixture of No. 5 fuel oil, waste oil and toluene. This tank was tightness tested in 1992 and showed no indication of leakage. This tank was removed after closure plan approval in March 1994. Upon removal, only a small amount of oil was found. Soil was removed and tested as non-hazardous.

RFA completed in 1989. The RFI was completed in August 1994.

PROPOSED PLAN

Response complete pending review of data gaps and HHRA.

STATUS

RRSE RATING: Low

CONTAMINANTS:

Metals, VOC, SVOCs

MEDIA OF CONCERN:

Soil, Groundwater, Surface Water

COMPLETED IRP PHASE:

RFA, RFI, IRA

CURRENT IRP PHASE:

RC- 1997

KAAP - 040
PISTOL RANGE

SITE DESCRIPTION

KAAP-40 is located in the northwestern portion of the installation, approximately 0.25 mile south of the 200 Area. The area is used for training and certification of KSAAP security personnel in the handling of firearms as required by regulation. The area was constructed in 1968, and consists of a covered shooting area, seven wooden target posts, and an earthen barricade.

RFA was completed in 1996. This site was picked up at the begining of the RFI Phase II investigation, that was completed in June 1998. Low levels of lead were detected in soils.

RCRA Corrective action requirement (presence or absence of past lead contamination) makes this site eligible for IRP funds.

PROPOSED PLAN

Response complete pending review of data gaps and HHRA.

STATUS

RRSE RATING: Low

CONTAMINANTS:

Lead

MEDIA OF CONCERN:

Soil

COMPLETED IRP PHASE:

RFA, RFI

CURRENT IRP PHASE:

RC (UNDER IRP)

KAAP - 041
WATER TOWERS

SITE DESCRIPTION

KAAP-41 consists of four water towers located in the northeast, southeast, southwest, and northwest areas of the installation. The water towers provide a working reservoir of potable water that serves all areas of the plant. The towers were constructed in 1941 and are of bolted steel construction. Past sand blasting operations contaminated these locations with lead.

RFA was completed in 1996. The RFI Phase II was completed in June 1998. High levels of lead were detected in soils. No significant contamination was detected in groundwater. RD started in March 1999.

Removal of ~550 cy of lead contaminated soil occurred in calendar year 2002.

PROPOSED PLAN

Response complete pending review of data gaps and HHRA.

STATUS

RRSE RATING: Medium
CONTAMINANTS:
Metals
MEDIA OF CONCERN:
Soil
COMPLETED IRP PHASE:
RFA, RFI, RD, RA
CURRENT IRP PHASE:
RC

KAAP - 042
WATER DETENTION BASIN

SITE DESCRIPTION

KAAP-42 is located in the northeast portion of the installation (Area 2100), south of Road 2 approximately 0.5 mile east of Road E. The basin was constructed in 1978 to store lime sludge from the settling basins at the water treatment plant.

The RFA was completed in June 1996 and the RFI is complete. No significant contamination was found.

STATUS

RRSE RATING: Medium
CONTAMINANTS:
Metals
MEDIA OF CONCERN:
Sludge
COMPLETED IRP PHASE:
RFA, RFI
CURRENT IRP PHASE:
RC - 2001

PAST MILESTONES

1988	
PA/SI (USAEHA)	August
1989	
PA/SI (EPA)	March
1991	
RI Work Plans Approved	October
RI Awarded	December
1992	
LTM 700 Area Initiated KAAP-18	June
1994	
Background Metals Study	June
RFI Phase I Report	December
1995	
RI 700 Area Human Health Risk Study (KAAP-18)	May
1996	
Interim Measures Fish/Pond Study	May
700 Area Human Health Risk Study (KAAP-18)	May
1997	
CMS/FS 700 Area Soils & Sediments (KAAP-18)	May
1998	
RI Phase II RFI Investigation	May
IRA 700 Area Soils (KAAP-18)	August
RI, Began Groundwater Assessment (KAAP-18)	February
Groundwater Assessment Report	December
1999	
Final Human Health Risk Assessment	March
CMS, Begin CMS, KAAP-10,20, 21,22,41	March
LTM, Begin LTM, KAAP-02,03,04,05,37	March
CMS , Begin KAAP-02,05,12,15,24,25,26,35,37,38,39,40,42	March
Final Ecological Risk Assessment	May
RD, Begin RD, KAAP-10,20,21,22,41 *65%	June
RI, Complete Groundwater Assessment Report	August

PAST MILESTONES

FY 2000

Began CMS 700 Area Groundwater Eng. Report KAAP-18	February
Began data gap study kaap-01,03,04,05,09,10,17,19,20,21,22	June
cms complete kaap-10,20,21,22,41	December

FY 2001

Complete CMS 700 Groundwater Eeng report KAAP-18	February
RD for soil removal KAAP-10,20,21,22,41	May
Began RA metals contaminated soils	August

FY 2002

Complete data gap study	December
Soil removal KAAP-10,20,21,22,41	December
RD 700 Area Groundwater KAAP-18	December
RD “HOTSPOT” removal hot-spot soils KAAP 9, 16, 17, 19	January

FY 2003

Begin RA 700 Area Groundwater KAAP-18	March
Begin groundwater delinieation kaap-03,04,16,17,19 KAAP-20,21,22	June
Begin RI 1200 Area, KAAP-43	June
Complete RA explosives contaminated soils, KAAP-10, 20,21,22	January

FY 2004

Continue Groundwater Delineation/Feasiblity Study	December
Begin RA hot spot soil removal KAAP-09	March
Continue RI 1200 Area, KAAP-43	January

FUTURE MILESTONES

FY 2005

Begin RD landfill cover KAAP-03,04,05	January
Begin RD GW, KAAP-03,04,05,16,17,19,20	March
Begin RA 1200 Area, KAAP-43	March
Begin RA explosives/metals contaminated soils KAAP-16,17,19	June
Complete GW delineation KAAP-03,04,05,16,17,19,20,21,22	July
Begin RA Landfill Cover - KAAP-05	July
Begin RD/RA 1200 Amonium Nitrate - KAAP-43	Aug
Begin RA Groundwater 1100 Area - KAAP-22	Sep

FY 2006

Begin RD Landfill Cover - KAAP-03	Feb
Begin RA landfill covers KAAP-05	March

Schedule

2007

Begin RA GW, KAAP-03, 04, 05,16,17	January
Begin RA landfill covers KAAP-03 and 04	March
Complete RA Landfill Cover - KAAP-05	June

2008-2009

LTM and RA(O)	
Complete RA Landfill Covers - KAAP-03 and 04	June
RA Actions Complete	September

2031

All IRP actions completed

NO FURTHER ACTION SITES

The following sites currently require no further action under the ER,A program:

KAAP-11*	OLD PESTICIDE STORAGE BUILDING
KAAP-12	HAZARDOUS WASTE STORAGE IGLOOS
KAAP-13	PCB STG AREA BLD 1400
KAAP-23	WASTE ANALYSIS CHEMISTRY LAB
KAAP-24	INCINERATOR EXPLOSIVE WASTE
KAAP-25	OIL SPILL RESIDUE LAND FARM
KAAP-26	WASH RACK DISCHARGE POINT - 200 AREA
KAAP-27	MERCURY FULMINATE BURIAL SITE
KAAP-29	PARTICULATE EMISSION CONTROL FOR COAL FIRED BOILER
KAAP-36	200 AREA PAINT BOOTH WATERFALL SYSTEM
KAAP-38	CONTAMINATED WASTE PROCESSOR
KAAP-39	HAZARDOUS WASTE UST
KAAP-40	PISTOL RANGE
KAAP-41	WATER TOWERS
KAAP-42	WATER DETENTION BASIN

*EPA may require an SI to be performed as a result of review on EBS for plant excessing.

Kansas Army Annunition Plant IRP Schedule

(Based on current funding constraints)

Current Phase **Future Phase**

		FY05	FY06	FY07	FY08	FY09	FY10+
KAAP-001	RAC						
KAAP-002	RAC						
	LTM						
KAAP-003	RI/FS						
	RD						
	RA						
	RD(GW)						
	RA(GW)						
	LTM						
KAAP-004	RI/FS						
	RD						
	RA						
	RD(GW)						
	RA(GW)						
	LTM						
KAAP-005	RI/FS						
	RD						
	RA						
	LTM						
KAAP-009	RA						
	LTM						
KAAP-010	LTM						
KAAP-016	LTM						
KAAP-017	RI/FS						
	RAC						
	LTM						
KAAP-018	RA(O)						
KAAP-019	RI/FS						
	RD						
	RA						
	LTM						
KAAP-020	RI/FS						
	LTM						
KAAP-021	RI/FS						
	LTM						
KAAP-022	RI/FS						
	RD(GW)						
	RA						
	RA(O)						
KAAP-037	LTM						
KAAP-043	RS						
	RA						

Remediation Activities

COMPLETED REM/IRA/RA:

- KAAP-018, Removal of Explosive and Lead contaminated soils around sumps and ditches in the 700 Area Apr-Jul 98, (FY98)
- KAAP-018, Removal of Lead contaminated sediments in Pond 15 (old Oxidation pond) July-August 1998 (FY98)
- KAAP-010,20,21,22,40, Removal of metals contaminated soils, FY02
- KAAP-010,20,21,22, Removal of explosive contaminated soils, FY02
- KAAP-18, Installed Monitored Natural Attenuation System , FY03

CURRENT REM/IRA/RA:

- Soil removal at KAAP-009

FUTURE REM/IRA/RA:

- RA at KAAP-001, 002, 003, 004, 005, 017, 019, 020, 021, 022, 043

Community Involvement

RESTORATION ADVISORY BOARD (RAB) STATUS

In October 1994, KSAAP conducted a community billboard information session at the city of Parsons library to inform the community of the Installation Restoration Program. A fact sheet was distributed to persons on KSAAP's mailing list, local leaders, radio station and newspaper announcing the informational session. Representatives from EPA Region VII, KDHE, Corps and their Contractors were on hand to provide information to the public. Only representatives from the radio station, newspaper and two local contractors seeking an opportunity for business attended the session.

An interest survey was taken in June 1997. Two responses were received, both were interested in clean-up efforts taking place at KSAAP, but they were not interested in being part of a RAB.

KSAAP is surrounded by farmland. The city of Parsons, Kansas (population 12,000) is 3 miles to the west, and the township of Labette is immediately south of the installation. Other townships in Labette County, Kansas that may hold an interest in the installation's activities are Oswego, Altamont and Chetopa, Kansas.

Efforts Taken to Determine Interest

- Discussed the need for a RAB with current TRC members made of Installation, State and Federal Regulators and COE.
- Placed a public notice in the local newspaper identifying what a RAB was and our interest in getting community involvement.
- Placed Fact Sheets and community interest forms at the public library.
- Mailed Fact sheets and community interest forms to those on KSAAP's mailing list.
- RI contractor provided slides and spoke at local Rotary luncheon on the ongoing remedial investigations at KSAAP.
- The local community was surveyed in 1997 to determine if there was interest in establishing a Restoration Advisory Board.
- Held a public meeting in April 1998 for 700 IRA soil cleanup.
- Conducted another RAB community interest survey in June 1999.
- Presentation to Kiwanis Club in August 1999.
- Canvased the local population through newspaper and KAAP mailing list July 2001. Efforts resulted in no public interest.

Recent Meetings

- EPA Region VII Public Meeting 25 July 2001, for RA (soil removal KAAP-10,20,21,22) of metals and explosives contaminated soils. Three attendees.
- KDHE Public Notification Feb 2003 for RA, monitored Natural Attenuation, 700 Area groundwater - No Public Interest.

Follow-up Procedures:

KSAAP is committed to getting the community involved in the ongoing Restoration program. KSAAP will again try to establish community interest in 2004 and will work with AEC, and the regulators to determine what efforts need to take place to develop community interest.